

Finger Exploration of Gunshot Wounds of the Brain.—TOWNE and GOETHALS (*Ann. Surg.*, 1920, lxxi, 531), from a careful study of 28 cases and of the literature, concluded that the entry of a foreign body into brain tissue causes irreparable damage to a more extensive area than that involved in the actual tract of the foreign body, and this cavity is further broadened by hemorrhage; hence the size of the metallic fragment or of the dural aperture is not a true index to the wider area of damage represented by the brain cavity. When such a cavity is not over 7 cm. deep and large enough to admit a finger, cleansing with forceps under careful finger control gives absolute insurances against sepsis, and only very rarely causes increased cerebral trauma which is slight and recoverable. Cleansing of such a cavity by Cushing's method of catheter palpation is sometimes not complete and therefore does not always prevent sepsis; it necessitates a prolonged operation; and it is successful only in the hands of those who have had a large experience in its technic. Brain wounds not suitable for finger palpation must be cleaned as well as possible by the catheter method, curettage, or magnet extraction, or a combination of these methods. The tendency of the difficult catheter technic to make this a special field, which requires that the wounded undergo delay if a trained neurological surgeon is not at hand, is not for the best interests of the patient, who is put under increasing risk of encephalitis with every preoperative hour. Brain wounds, and especially those suitable for finger palpation, are easy to clean rapidly and successfully if a few proper instruments are available. Any surgeon fitted to do front line work can quickly acquire the technic and do these cases in well under an hour; and, with experience in judging which casualties are inoperable may well succeed in evacuating 75 per cent. or more of his operated cases.

THERAPEUTICS

UNDER THE CHARGE OF

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The Effect of the Subcutaneous Injection of Adrenalin Chloride on the Heat Production, Blood-pressure and Pulse-rate in Man.—In a series of 73 experiments on patients suffering from various disorders of the ductless glands, SANDIFORD (*Am. Jour. Physiol.*, 1920, li, 407) found that adrenalin chloride (0.5 c.c. of 1 to 1000) injected subcutaneously invariably caused an increase in the metabolic rate, usually accompanied by an increase in ventilation and respiration rates, number of heart-beats per minute, volume of each beat and a greater utilization

of the blood-carrying power and peripheral dilatation, with an increased systolic and decreased diastolic blood-pressure. No relationship was found between the intensity of the adrenalin reaction and the degree of hyper- or hypothyroidism. The author found a metabolic rate curve following the injection of adrenalin similar to that found by Lusk from a carbohydrate plethora, and suggests the possibility that the increased heat production is due to an excess of carbohydrate metabolites. In addition there may be a direct stimulation of cellular combustion.

The Results of Protective Inoculation Against Influenza in the Army at Home, 1918-1919.—LEISHMAN (*British Med. Jour.*, February 14, 1920, p. 214). The vaccine formula recommended by a conference of bacteriologists, of which Leishman was chairman, was as follows: *B. influenzae*, 60 millions; streptococci, 80 millions; pneumococci, 200 millions per c.c. Several strains of each organism were used. Two doses were given, the first 0.5 c.c., and the second, after ten days' interval 1 c.c. The following table is a summary of the results obtained:

	Inoculated.	Non-inoculated.
Number	15,624	43,520
Incidence of attack per 1000	14.1	47.3
Incidence of pulmonary complications per 1000	1.6	13.3
Deaths per 1000	0.12	2.25

Later, as the etiological role of Pfeiffer's bacillus came more and more into prominence, the vaccine formula was revised so that each cubic centimeter of the vaccine now in use contains 400 millions of *B. influenzae*.

Intravenous Protein Therapy.—The principal "foreign proteins" employed intravenously by Gow (*British Med. Jour.*, February 28, 1920, p. 284) are peptone and emulsions of the coli-typhoid group of organisms, the protein-complex of this group being the most efficacious in inducing the "protein shock." He has also used autogenous vaccines in pyelonephritis with good results. Within fairly wide limits the size of the dose of killed *B. coli* vaccine has little effect on the severity of the reaction. The initial dose may be between 50 and 100 millions. The reaction induced by peptone is proportional to the dose; he gives from 5 to 10 c.c. of a 10 per cent. solution. He describes in detail the technic of administration and the reaction of the patient: rigor, abdominal distress, fever, drop in blood-pressure, decrease in the number of the white blood cells followed by a rapid increase to a maximum of 20,000 to 30,000 per c.c. There may be dyspnea and cyanosis, which are speedily relieved by the hypodermic injection of adrenalin or atropine sulphate. Usually most of the symptoms have subsided by the seventh hour, the temperature returns to normal within twenty-four hours; occasionally facial herpes develops two or three days later. The principal types of cases benefited are: Infective diseases in which the infective organism is known and in which the vaccine is given for specific and "shock" effect. Those in which the causal organism is unknown